

REMARKS

Reconsideration of the present application is respectfully requested. Claims 12-13, 18, 21, 23, 30 and 31 have been amended. Claims 1-11, 22, 25 and 26 have been canceled. Claims 34-38 have been newly added. No new matter has been added.

Claim Rejections - §101

Claims 12-33 stand rejected under 35 USC §101 as allegedly being directed to a non-statutory subject matter. Claim 12 recites the limitation of “if the first entry does correspond to the search key, performing an action on information stored in the first entry”. In other words, if an entry is found to match a search key, an action is performed on information of the entry. Thus, the claim recites a useful, tangible and concrete result, namely, finding an entry in a data structure and performing an action on information in the entry. Further, a data structure is also tangible and concrete. Thus, at least for the foregoing reasons, claim 12 is directed to a statutory subject matter.

Similarly, independent claim 23 recites the limitation of “if the entry key does correspond to the search key, performing an action on information stored in the entry”, and independent claim 30 recites the limitation of “if the first entry corresponds to the search key, retrieving an address for a storage device found in the first entry”. At least for the same reasons as claim 12, claims 23 and 30 both supply a useful, tangible and concrete result. Thus, the §101 rejections are believed to be overcome.

Claim Rejections - §102

Independent claims 12, 23 and 30 stand rejected under 35 U.S.C. §102(e) based on Schimmel (U.S. Patent No. 5,960,434). Applicants respectfully traverse the rejections.

Claim 1, as currently amended, recites:

1. A method for searching a data structure, the method comprising:
hashing a search key to generate a hash result;
determining a first entry in a plurality of entries in the data structure using the hash result;
determining if the first entry corresponds to the search key;
if the first entry does not correspond to the search key, using information in the first entry to determine a second entry in the data structure, the second entry included in a branch of a plurality of branches associated with the first entry;
if the first entry does correspond to the search key, performing an action on information stored in the first entry.
(Emphasis added)

In contrast, Schimmel does not teach or suggest the above emphasized limitation, namely, if the first entry does not correspond to the search key, using information in the first entry to determine a second entry in the data structure, the second entry included in a branch of a plurality of branches associated with the first entry.

As shown in Schimmel's figures 1a, 2, 3a, 4a, 4b, 5a, 6 and 7, the data records pointed by a hash bucket are connected as a link list. For example, the discussion of figure 1a in lines 26-39 of column 5 of Schimmel discloses that if a key value associated with data record 124 is not the key value being searched for, search module 166 uses a pointer 125 associated with data record 124 to identify the next record 126 to be searched. Thus, instead of having a plurality of branches, data record 124 has only one branch, the pointer 125 pointing to the next record 126. In contrast, the first entry, as recited in claim 12, has a plurality of branches and the second entry is included in one of the plurality of branches associated with the first entry. It also would not be obvious because a link list is completely different from a tree data structure, and searching a tree data structure is more complicated than searching a link list.

Thus, at least for the above reasons, Schimmel does not teach or suggest each and every limitation of claim 12. Therefore, claim 12 and all claims which depend on it are patentable over Schimmel.

Claim 30 recites the limitation of “the second entry included in a branch of a plurality of branches associated with the first entry”, which is similar to that discussed above for claim 12.

Thus, for similar reasons, claim 30 and all claims which depend on it are patentable over Schimmel.

Independent claim 23, as currently amended, recites:

23. A method for searching a data structure, the method comprising:
(a) hashing a search key to generate a hash result;
(b) determining an entry in a plurality of entries in the data structure using the hash result;
(c) determining if an entry key in the entry corresponds to the search key;
(d) if the entry key does not correspond to the search key, repeating step (c) using a subsequent entry until the entry key from the subsequent entry corresponds to the search key, wherein the subsequent entry is determined using information in the entry, wherein as step (c) is repeated using a first subsequent entry and a second subsequent entry, different information in the search key is used to determine the second subsequent entry than was used in determining the first subsequent entry; and
(e) if the entry key does correspond to the search key, performing an action on information stored in the entry.
(Emphasis added).

In contrast, Schimmel does not teach or suggest the above emphasized limitation, namely, different information in the search key is used to determined the second subsequent entry than was used in determining the first subsequent entry. As disclosed in Schimmel, if a key value associated with a first data record (e.g., data record 124 shown in Figure 1a) is not the key value to be searched, a pointer included in the first data record is used to identify a subsequent data record (e.g., data record 126 shown in Figure 1a). In contrast, the method recited in claim 23 uses information in the search key to determine subsequent entries. Because Schimmel does not teach or suggest using information in a search key to determine subsequent

entries, it certainly does not teach or suggest using different information in a search key to determine the first and second subsequent entries, such as recited in claim 23.

Thus, at least for the foregoing reasons, Schimmel does not teach or suggest each and every limitation of claim 23. Therefore, claim 23 and all claims which depend on it are patentable over Schimmel.


Newly added claim 34 recites a limitation similar to that discussed above for claim 23. Therefore, for similar reasons, claim 34 and all claims which depend on it are also patentable over Schimmel.

For the foregoing reasons, the present application is believed to be in condition for allowance, and such action is earnestly requested.

If any additional fee is required, please charge Deposit Account No. 02-2666.

Respectfully submitted,
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